AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-29. (Canceled)

30. (Previously presented) A method for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the method comprising the steps of:

(a) preparing an assay mixture comprising:

(i) the sample,

(ii) one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe complementary to the analyte and hybridizing therewith, the label being capable of generating a detectable electrochemiluminescent emission, wherein the labeled complex is immobilized on a magnetic particle,

(iii) an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, and

(iv) a coreactant,

(b) bringing the assay mixture into contact with a working electrode,

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed,

(d) separating unhybridized labeled complex from hybridized labeled complex,

(e) measuring the electrochemiluminescent emission produced by the label hybridized to the analyte via the oligonucleotide probe, and

(f) correlating the measured electrochemiluminescent emission with the presence or amount of the analyte in the sample.

31. (Previously presented) A method for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the method comprising the steps of:

(a) preparing an assay mixture comprising:

(i) the sample,

(ii) one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe, complementary to the analyte and hybridizing therewith, the label being capable of generating a detectable electrochemiluminescent emission, the labeled complex further comprising an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, the quenching moiety attached to the probe, wherein the labeled complex is immobilized on a magnetic particle, and

(iii) a coreactant,

(b) bringing the assay mixture into contact with a working electrode,

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed,

(d) separating unhybridized labeled complex from hybridized labeled complex,

(e) measuring the electrochemiluminescent emission produced by the label hybridized to the analyte via the oligonucleotide probe, and

(f) correlating the measured electrochemiluminescent emission with the presence or amount of the analyte in the sample.

32. (Previously presented) An assay reagent kit for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the assay reagent kit comprising, in one or more containers in packaged combination:

(i) one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyride complexes and osmium bipyridine complexes attached to an oligonucleotide probe capable of hybridizing with the analyte, the label being capable of generating a detectable electrochemiluminescent emission, wherein the labeled complex is immobilized on a magnetic particle,

(ii) an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, and

(iii) a coreactant.

33. (Previously presented) An assay reagent kit for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the assay reagent kit comprising, in one or more containers in packaged combination:

(i) one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe, capable of hybridizing with the analyte, the label being capable of generating a detectable electrochemiluminescent emission, the labeled complex further comprising an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, the quenching moiety attached to the probe, wherein the labeled complex is immobilized on a magnetic particle, and

(ii) a coreactant.

Claims 34-46. (Canceled)

47. (Currently amended) A method ~~according to claim 34~~ for detecting an analyte in a sample composition, comprising the steps of:

(a) preparing an assay mixture comprising:

(i) said sample composition;

(ii) a first reagent comprising an ECL label having a chemical moiety that has electrochemiluminescent properties, which ECL label is capable of providing an observed ECL emission; and

(iii) a second reagent having an ECL quenching moiety that, when in quenching contact with an ECL label, attenuates the observed ECL emission thereby providing a reduced ECL emission, said ECL quenching moiety comprising at least one benzene moiety;

(b) bringing the assay mixture into contact with a working electrode;

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed; and

(d) detecting a difference between the observed ECL emission and the reduced ECL emission, and thereby confirming the presence of said analyte in the sample solution,

wherein the analyte comprises an oligonucleotide, and the ECL label and the ECL quenching moiety are present on separate oligonucleotide hybridization probes, which probes bind to the oligonucleotide in quenching contact.

48. (Currently amended) A method ~~according to claim 34~~ for detecting an analyte in a sample composition, comprising the steps of:

(a) preparing an assay mixture comprising:

(i) said sample composition;

(ii) a first reagent comprising an ECL label having a chemical moiety that has electrochemiluminescent properties, which ECL label is capable of providing an observed ECL emission; and

(iii) a second reagent having an ECL quenching moiety that, when in quenching contact with an ECL label, attenuates the observed ECL

emission thereby providing a reduced ECL emission, said ECL quenching moiety comprising at least one benzene moiety;

(b) bringing the assay mixture into contact with a working electrode;

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed; and

(d) detecting a difference between the observed ECL emission and the reduced ECL emission, and thereby confirming the presence of said analyte in the sample solution, wherein the analyte comprises an oligonucleotide, and the ECL label and ECL quenching moiety are present in quenching contact on a single oligonucleotide hybridization probe that binds to the oligonucleotide, and wherein said method further includes the presence of a DNA polymerase that is capable of degrading said hybridization probe when bound to said oligonucleotide so that the ECL label and ECL quenching moiety are no longer in quenching contact.

49. (Currently amended) A method ~~according to claim 34~~ for detecting an analyte in a sample composition, comprising the steps of:

(a) preparing an assay mixture comprising:

(i) said sample composition;

(ii) a first reagent comprising an ECL label having a chemical moiety that has electrochemiluminescent properties, which ECL label is capable of providing an observed ECL emission; and

(iii) a second reagent having an ECL quenching moiety that, when in quenching contact with an ECL label, attenuates the observed ECL

emission thereby providing a reduced ECL emission, said ECL quenching moiety comprising at least one benzene moiety;

(b) bringing the assay mixture into contact with a working electrode;

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed; and

(d) detecting a difference between the observed ECL emission and the reduced ECL emission, and thereby confirming the presence of said analyte in the sample solution, wherein the analyte comprises an oligonucleotide, and the ECL label and ECL quenching moiety are present on a single oligonucleotide hybridization probe, which probe has self-hybridization sequences and is capable of self-hybridization in the absence of said oligonucleotide, and wherein self- hybridization brings the ECL label and ECL quenching moiety into quenching contact.

Claims 50-62. (Canceled)